

Using a Business Case Throughout an Investment: An Exploratory Case Study on a Business Case Process

Research-in-Progress

Kim Maes

Antwerp Management School
University of Antwerp
kim.maes@ams.ac.be

Steven De Haes

University of Antwerp
Antwerp Management School
steven.dehaes@ua.ac.be

Wim Van Grembergen

University of Antwerp
Antwerp Management school
wim.vangrembergen@ua.ac.be

ABSTRACT

A discretionary information technology (IT) enabled business investment is often associated with an enterprise-wide transformation (e.g. Enterprise Resource Planning (ERP) investment). Although it may deliver operational excellence and a competitive advantage, it is a risky endeavour with high failure rates. One of the critical factors to achieve a successful outcome is to develop a sound business case. In response to a lack of business case knowledge, Ward, Daniel, and Peppard (2008) designed a business case development process. The process ends on investment approval while others scholars call for a continuous business case process used throughout the entire investment life cycle. The present paper responds to this call with an exploratory case study and identifies multiple business case tasks which complement the process of Ward et al. (2008) resulting in an initial business case process.

KEYWORDS

Business case, process approach, investment life cycle, exploratory case study, ERP investment.

INTRODUCTION

A business case, in literature defined as a formal document that summarises costs, benefits, impact and planning of an investment (Hsiao, 2008; Krell and Matook, 2009), is frequently employed by organisations as they perceive it as a valuable instrument. The dot com crisis has stimulated organisations' cautiousness and pessimism compelling practitioners to more frequently develop a business case in order to start or continue a strategic investment (Westerman and Curley, 2008). In 2008, 96 percent of the European organisations surveyed by Ward et al. (2008, p2) were required "to produce some form of business case when justifying IT investments" and 68 percent were convinced that a business case is an important instrument in order to gain value out of investments. In a survey by AMR Research, ASUG and SAP, organisations identified a detailed business case as a cornerstone in order to get value from ERP investments (Swanton and Draper, 2010). However, the utilisation of business cases is not as thorough and anchored as might be perceived. Some organisations are still not developing a detailed business case prior to an investment (Beatty and Gordon, 1991; Charette, 2006; Goldschmidt, 2005; Powell, 1993) as they lack adequate skills and in-depth knowledge on business cases (Farbey, Land and Targett, 1999; Jeffrey and Leliveld, 2004; Taudes, Feurstein and Mild, 2000). Others develop weak business cases without the specification of what benefits the investment should realise because it could hinder the approval procedure (Farbey et al., 1999). According to Franken, Edwards, and Lambert (2009, p65), most business cases developed "gather dust on the shelf or are lost on someone's hard disk" after the investment is approved.

In response, Ward et al. (2008) designed a six-step approach to develop a rigorous business case. Nonetheless, the authors' process ends when the investment is approved while other scholars identify that a business case can support continuous monitoring of planning, requirements, costs, risks and benefits throughout the entire life cycle of an investment (Al-Mudimigh, Zairi, Al-Mashari and others, 2001). It is recognised as a mechanism promoting communication to obtain stakeholder inclusion and commitment (Peppard and Ward, 2005). A business case should evolve into a living document with

a process approach (Franken et al., 2009; Gregor, Martin, Fernandez, Stern and Vitale, 2006). Unfortunately, none of these scholars have a clear-cut answer on how to implement or execute such a process approach on business cases.

Notwithstanding business case process knowledge is absent, it is in many ways beneficial to use a business case beyond the investment approval. According to Smith, McKeen, Cranston and Benson (2010), business case evaluation during investment execution helps to remove unnecessary spending and to avoid additional spending for an unworthy investment. In case an investment seems to escalate, a business case re-estimation may prove that the investment has become unprofitable and should be stopped immediately (Iacovou and Dexter, 2004). A business case is a communication instrument which encourages the working relationship with and fosters trust between different stakeholders of the investment (Chakraborty, Sarker and Sarker, 2010; Handfield, Krause, Scannell and Monczka, 2000). It can also function as an objective instrument in the evaluation of the investment performance (Raymond, Pare and Bergeron, 1995).

Therefore, the present research will make an attempt to develop an initial business case process that runs throughout the entire investment life cycle. We start from the six-step approach of Ward et al. (2008) as it is the best contribution to this point in high-quality academic and practitioners literature to describe a business case (development) process. We try to complement the process with supplementary steps and tasks from an exploratory case study. In addition, the case study increases our understanding on how each of these steps and tasks can be implemented. The contribution of this research is twofold. First, the development of an initial business case process complements and extends the business case development approach of Ward et al. (2008). Hence, it provides an answer to several scholars asking for an application of the business case throughout the investment life cycle but who have not yet formulated how this process can be executed. Second, the exploration of a business case approach and individual tasks helps to clarify how the business case process can practically be executed.

The structure of the paper is as follows. First, we set the context of the research and the case study, and describe the research methodology. Next, the findings from the exploratory case study will be discussed. The discussion is structured by the six steps of business case development and complemented with supplementary steps and tasks as found in the case study. We end the paper with a conclusion on how the research impacts and extends the business case development approach of Ward et al. (2008).

BACKGROUND

The objective of the research is to develop an initial business case process that runs in parallel with the entire investment life cycle. In literature, a business case is defined as a formal document that summarises costs, benefits, impact and planning of an investment (Hsiao, 2008; Krell and Matook, 2009). A business case process can be conceived as a business process which attempts to transform the formal business case document into a living document, as suggested by Franken et al. (2009). Therefore, we build on a common definition of a business process provided by Davenport and Short (1990, p14): “a business process is a set of logically related tasks performed to achieve a defined business outcome.”

Part of the business case process has already been investigated by Ward et al. (2008), who have designed a process for the development of a business case consisting of six steps with multiple individual tasks. According to Al-Mudimigh et al. (2001), the objectives of business case development are to assure investment information is collected, to assure stakeholders are committed and to make well-founded investment decisions. Continuing the use of a business case after the investment is approved will add supplementary tasks to a business case process such as the evaluation and monitoring of the investment progress and risks, and the post-implementation review of the investment success (Franken et al., 2009; Jeffrey and Leliveld, 2004; Luftman and McLean, 2004). As the process developed by Ward et al. (2008) happens to be the best contribution to this point in academic and practitioners literature, we want to start from this process and identify further tasks in this research through an exploratory case study. In line with Altinkemer, Ozcelik and Ozdemir (2011) and Krell and Matook (2009), the objective of such a business case process is to increase the ultimate success rate of the investment. Consequently, we propose an initial definition:

A business case process is a set of logically related tasks to continuously evaluate and monitor the investment, to assure stakeholder commitment, and to enhance decision-making performed in order to ultimately increase the investment success rate.

The business case process runs in parallel with the investment life cycle which we define through a simplified three phase-perspective as presented by Hitt, Wu and Zhou (2002): before, during and after implementation. *During implementation* begins when the investment decision has been made and the organisation starts to invest resources in the investment, and ends when the investment has officially been launched. The official launch implicates that all planned applications have been implemented, all anticipated organisational changes have been produced and the organisation can now start using the product

of the investment. Consequently, all process phases with regard to feasibility that precede the investment approval belong to the *before implementation* phase and the post-implementation review is considered to be part of the *after implementation* phase. The business case development process designed by Ward et al. (2008) consists of six steps with several tasks that should be executed in the first phase as portrayed in Figure 1. This research's objective is to identify supplementary tasks that may complement their steps and tasks to develop an initial business case process running throughout the entire investment life cycle.

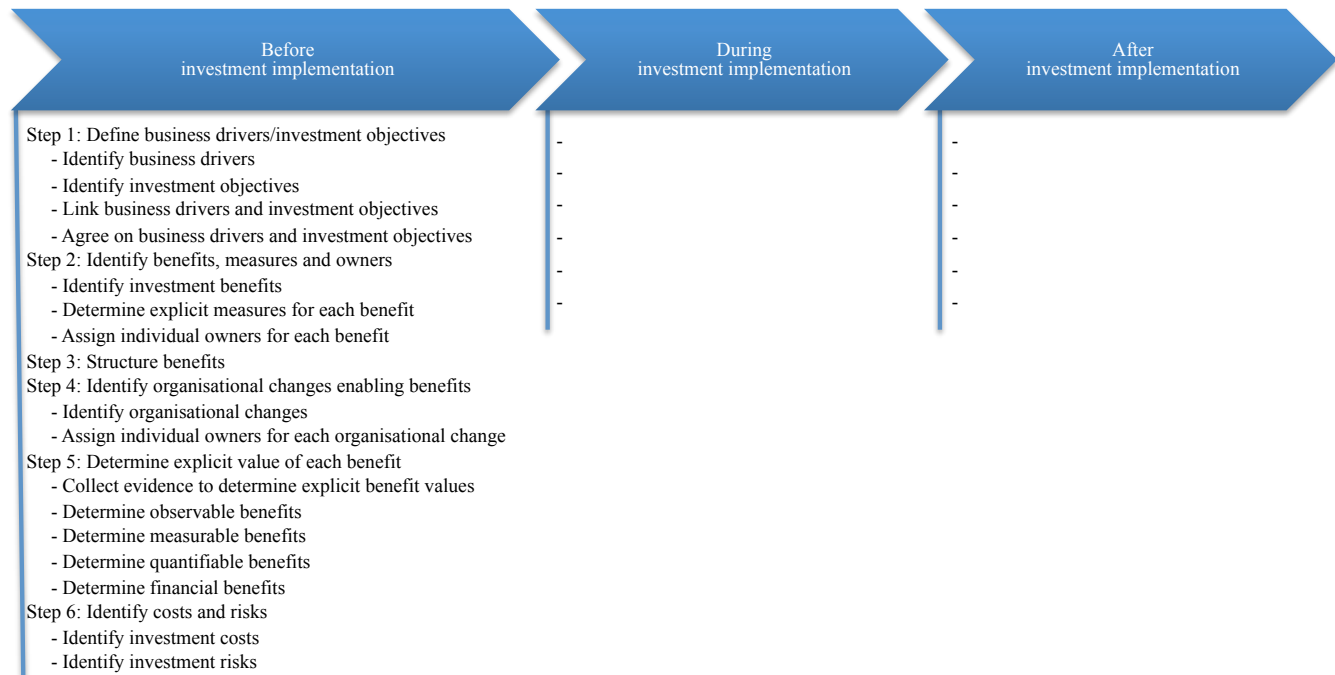


Figure 1. The investment life cycle including the business development process by Ward et al. (2008).

We argue that the business case process is mainly useful in an investment context of discretionary IT enabled business investments. In contrast to mandatory investments which are required to be executed because of legal or other obligations, organisations have complete flexibility to undertake discretionary investments justified by prior evaluation and only if they bring additional value to the organisation (Joshi and Pant, 2008). IT enabled business investments are a combination of transformations in business and IT. Business value cannot be created by isolated technology investments, but should always be supplemented with business changes (Peppard and Ward, 2004; Thorp, 1999; Van Grembergen and De Haes, 2010). Peppard and Ward (2004) list these additional business investments as “business changes and innovations, whether they are product/service innovation, new business models, or process changes, whereby organisations must be able to assimilate this change if value is to be ultimately realised.”

METHODOLOGY

To identify supplementary business case process tasks in order to develop an initial business case process, we have executed an exploratory case study. Exploratory research is useful in the beginning of a study to bring new insights and understandings on the subject (Kaae, Søndergaard, Haugbølle and Traulsen, 2010). Calder (1977) points at the advantage it brings to generate scientific constructs and to validate them against everyday experience. According to Benbasat and Zmud (1999), case studies “examine a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups, or organisations). The boundaries of the phenomenon are not clearly evident at the outset of the research and no experimental control or manipulation is used.”

The exploratory case study is performed at BARCO using the case study process of Eisenhardt (1989). BARCO is a Belgian technology company, which is globally active in the design and development of visualisation solutions with over 3,500 employees and 1 billion Euros sales in Entertainment, Healthcare, Control rooms and Simulation, and Defence and Aerospace. To further improve its operational excellence and integrate its worldwide divisions, R&D centres, manufacturers and clients, it initiated an ERP investment in 2009. In the present paper, we will discuss their business case approach

structured by the business case development process of Ward et al. (2008). As the investment is still on-going, a limitation of the study is that no empirical observations but only intensions can be shared on the ‘after implementation phase’. Despite this limitation, the single case study at BARCO is valuable to learn from and has been chosen amongst others for three reasons. First, the ERP investment conforms to the discretionary IT enabled business investment context. Second, the business case is developed in multiple steps to increase granularity progressively and employed in a mature and structured way throughout the investment life cycle, which is a rather unique feature across organisations. Third, their business case approach is instructive as it is pragmatic and based on extensive experience of key stakeholders and to our knowledge has not been captured in academic literature before.

In the context of our study, data collection was conducted between November 2012 and January 2013. We have focused on the business case approach with regard to the ERP investment performing a cross-sectional case study. In line with Yin (2009), triangulation is provided in evidence gathering. To reach a balanced view within BARCO, two senior IT and one senior business representatives were interviewed resulting in 202 interview minutes. All interviews were semi-structured and built around an initial set of questions (interview protocol). Each interview was recorded with the interviewee’s permission and transcribed to support careful data analysis. Besides interviews, it was possible to look into the formal business case document, and additional internal and public documentation. All data was coded and analysed using Atlas.ti software.

EXPLORATORY CASE STUDY: EMPIRICAL FINDINGS ON A BUSINESS CASE PROCESS

For the past 15 years, BARCO ran its internal operations on an ERP system called Baan. Although being a standardised platform in the early beginning, it was gradually transformed into a BARCO Baan system due to numerous customisations. The result was a cumbersome system on which each business unit imposed its internal operations and processes without a critical self-questioning mind-set. As BARCO is active in the cyclic high-tech industry, the economic crisis compelled them to make fast decisions to restructure, to divest in some divisions and invest in others. Inspired by the current lack of flexibility and a corporate strategy to excel operationally through world-class systems, it initiated an ERP investment in order to substitute the current ERP system and to redesign its business processes for more standardisation and less complexity. Their transformation initiative was guided by a thorough business case approach consisting of multiple steps in which the management committee approved the transition between each step (Figure 2). As argued by the IT director, *“the size of the ERP investment relative to BARCO’s total investment capital was definitely a criteria to say we go for a formal business case.”*

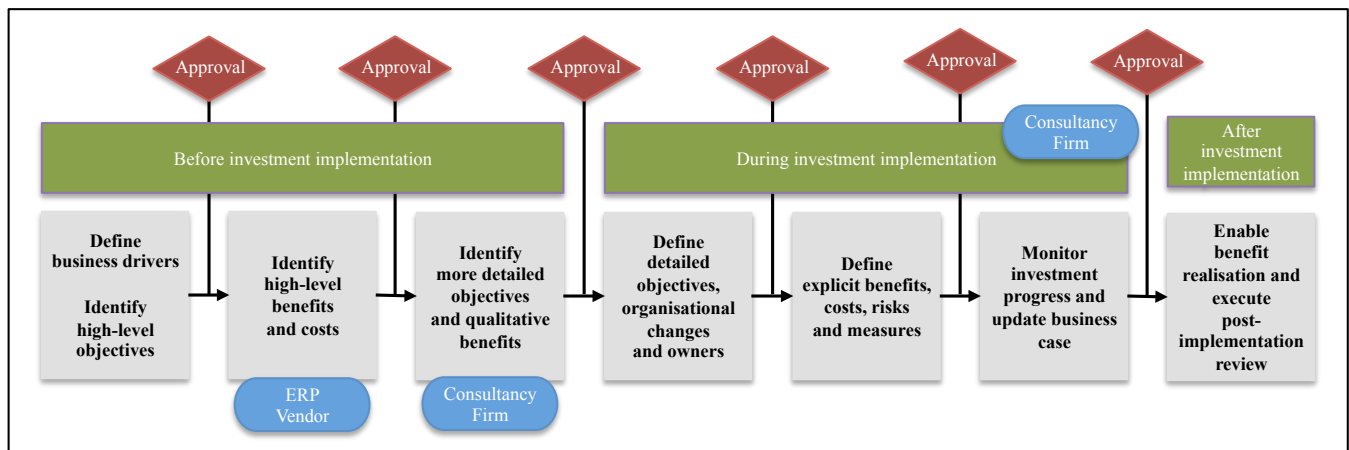


Figure 2. Business case process of BARCO's ERP investment

Before investment implementation

Define business drivers and identify high-level investment objectives

Ward et al. (2008) argue that the development of a business case starts with the identification of the business drivers and objectives of the investment, their linkage and an agreement by all relevant decision-makers. In BARCO’s case, a cumbersome ERP system that hinders operational flexibility and fast decision-making was a clear business driver for the investment. This was translated into the investment objective to replace the current system for a world-class ERP system to excel operationally. The high-level driver and objective were thus identified and linked, which has led to a formal approval by corporate management.

Identify high-level investment benefits and costs

Before more detailed investment objectives were identified, BARCO invited two ERP vendors to develop a high-level business case in which they had to identify high-level benefits and costs. The IT director says, “*corporate management wanted to be sure they could afford the investment and would really get sufficient benefits in return.*” It was also used as an objective vehicle to compare investment alternatives and to select SAP as the preferred ERP vendor. SAP’s approach is presented in Figure 3. Building on their experience, SAP identified multiple financial benefits that could be achieved on an immediate and yearly basis and categorised them per functional SAP domain (e.g., ERP, Customer Relationship Management and Human Capital Management). In addition, they used organisational performance metrics such as gross margin and weighted average cost of capital (WACC), to benchmark BARCO’s current position against industry competitors. The IT department coordinated this phase and provided a clear and objective picture of the investment necessity to corporate management who approved to proceed with a more substantial identification of investment objectives.

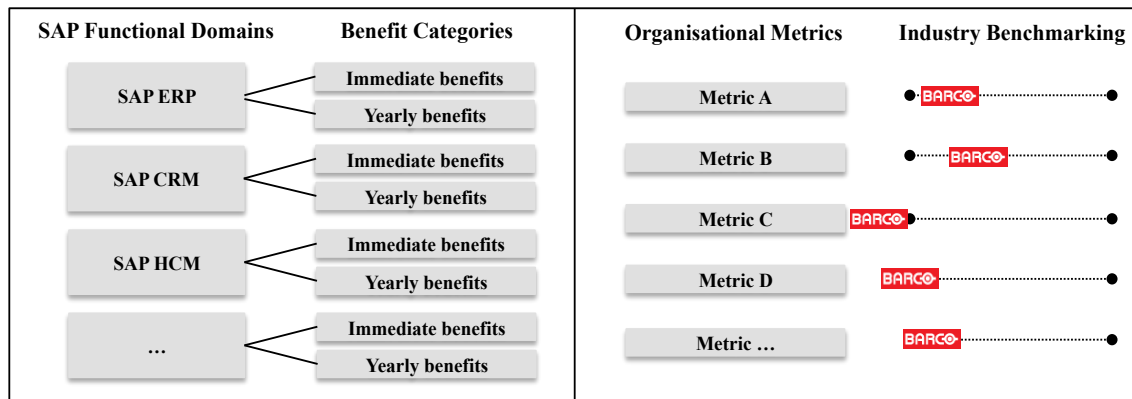


Figure 3. SAP high-level business case

Identify more detailed investment objectives and qualitative benefits

To further execute the first step in the development process of Ward et al. (2008), more detailed investment objectives were identified in a collection of workshops, called the roadmap exercise. The roadmap was initiated to redesign the business processes based on industry best practices and to ask business process owners (BPOs) to identify current issues, challenges and pain points, and new opportunities for the ERP implementation. These were described in business language and transferred into a list of qualitative investment objectives accommodated with an initial functional description. Similar to step four of Ward et al.'s (2008) process, the objectives were categorised into different types of organisational changes (opportunities/pain points). BPOs were ideally placed to perform this task as they possess extensive experience and are globally responsible for a specific business process. Moreover, the vice-president of Finance argues, “*this initiative is a business project which has been clearly stated as a key principle of the investment context.*” A consultancy firm facilitated the roadmap exercise and utilised their experience to draw an initial investment planning. They developed an overview of the qualitative objectives per business process with a preliminary estimation of financial benefits, and explained how these were calculated and which assumptions were taken. These tasks are part of Ward et al.'s (2008) second and fifth step. Although the stakeholders were included in the identification of qualitative objectives and functional descriptions, they were not involved in the financial benefits estimation. Based on the roadmap exercise, BARCO started the ERP implementation.

During investment implementation

Define detailed investment objectives, organisational changes and owners

To use the investment objectives of the roadmap exercise during the ERP implementation, BARCO further substantiated the objectives and finalised Ward et al.'s (2008) first step. The IT department developed a framework called business objectives map as shown in Figure 4, structuring the investment objectives per business process. Each BPO was trained and supported to create a one-pager per investment objective, which later was attached to the business objectives map. It included a detailed description of the objective in business language that was ideally based on an industry best practice description of the business process, together with the advantages it would bring, the stakeholders included to implement and the impact if the objective was not implemented. All objectives were prioritised by the BPOs to keep focus during the implementation. In support of the objective realisation, a team of three people (BPO, business analyst of IT and consultant) had to take ownership of the business process objectives. Figure 4 illustrates that the business objectives map linked each objective, its

enabling organisational changes, and the investment phase in which the organisational change was implemented, as recommended by Ward et al. (2008) in step four.

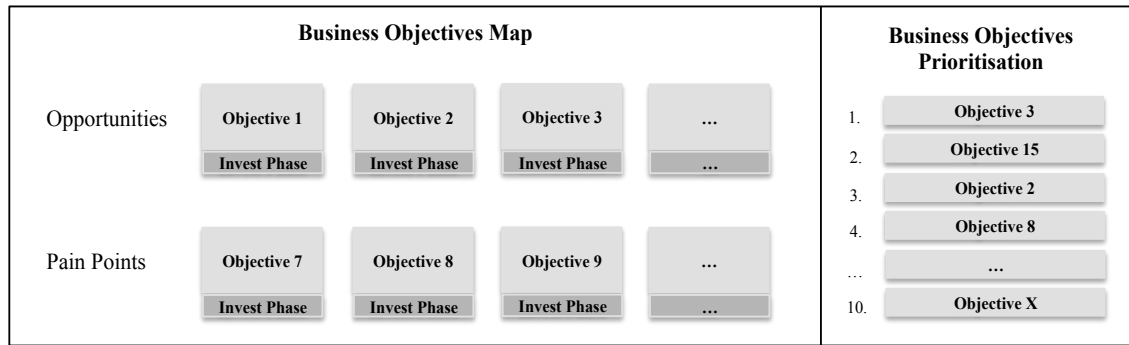


Figure 4. BARCO's business objectives map

Define explicit benefits, costs and measures

Although the business objectives map was well developed, detailed financial benefits were not yet explicitly determined. As the vice-president of Finance was responsible for the financial business case and the investment budget on which she had to report to corporate management and an external audit committee, she took the lead in this. In cooperation with BPOs and their financial controllers, they determined explicit financial values and underlying assumptions based on the business objectives map. For pragmatic reasons they determined explicit measures and calculated the collective financial impact of all objectives per business process (e.g. sales increase, gross margin, cost reduction). Each BPO had to approve these estimations and in order to get commitment and ownership, the vice-president of Finance stressed they were responsible to deliver the benefits. Finally, corporate management, the board of directors and the external audit committee approved the detailed business objectives map including objectives, financial benefits and costs.

Monitor investment progress and update business case

At this moment, BARCO has finalised the second implementation phase out of three. During these phases, the performance is monitored and the business objectives map is used as a compass. Each time a phase is finalised, the investment management committee asks BPOs to validate which objectives have been implemented according to the functional description from the objective one-pager and which not. Figure 5 demonstrates the business case update. Objectives that are not labelled (grey) have not yet been implemented. When an objective has been implemented in line with the industry best practice, it is designated in green while an orange and red label respectively refers to a partial best practice implementation and a customised implementation. In case an objective implementation was customised, the BPO had to submit a change request for customisation backed up with an individual business case. The project team installed this procedure to avoid the sins of the past by discouraging many customisations in the new ERP system. The updated business objectives map serves as an overiewing dashboard to corporate management, so they can review the investment progress and invite specific BPOs if they have too many customised objective implementations.

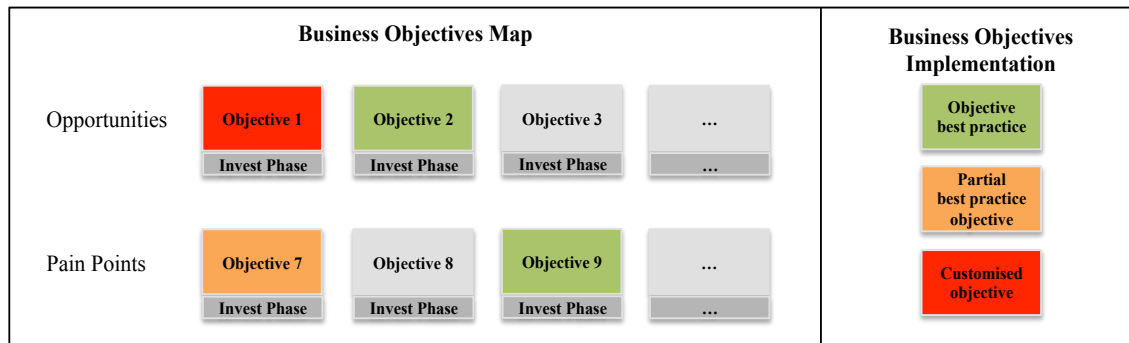


Figure 5. Update of business objectives map while investment progress is monitored

After investment implementation

Enable benefit realisation and execute post-implementation review

After an intensive analysis on the most realistic go-life approach during the roadmap exercise, it was decided to perform it incrementally across the world. Hence, benefits will be realised each time the ERP system is launched in a region. As this will begin in 2014, the benefits planning will be part of the standard benefits realisation procedure from 2014 on. During the subsequent years, an evolution of the benefits realisation will be monitored and regular post-implementation reviews will be executed.

DISCUSSION AND CONCLUSION

Although Ward et al. (2008) recommends to finalise all business case development steps before the investment is approved, BARCO has executed several of these during the implementation for two reasons. First, it was clear from the beginning that BARCO would execute the ERP investment regardless. As formulated by the Chief Information Officer, *“the business case would never prevail over the investment decision but could help to understand the investment impact.”* Second, the business case was designed to function as an implementation instrument to avoid too many customisations. As a result, while proceeding in the investment life cycle, more objectives were identified and their description and benefits became more explicit, leading to a conclusion that the business case process might be contingent upon the business case’s purpose for the investment.

The business case process phases and tasks identified in the BARCO case study are compared with tasks from the business case development process by Ward et al. (2008). An overview of the comparison is presented in Figure 6. Tasks that were already integrated in the Ward et al. (2008) process, and the respective steps in which these tasks are executed, are shown in black. Tasks executed at BARCO that supplement the process of Ward et al. (2008) are highlighted in red. Although BARCO has categorised and defined its investment benefits in less detail (per business process instead of per objective), it can be ascertained they have executed every step and task of the business case development process. Supplementary tasks focus for instance on judgement: investment alternatives are compared to each other, objectives and benefits are benchmarked respectively to industry best practices and competitors, and objectives are prioritised. Most supplementary business case tasks identified at BARCO can be found towards the end of the investment life cycle. Indeed, the process of Ward et al. (2008) is focused on business case development and does not specify anything about business case tasks during and after investment implementation. As argued by Franken et al. (2009), the BARCO case study demonstrates how investment progress is monitored against the business case, objective realisation is reviewed and the business case is regularly updated. Using the business case throughout the investment life cycle helps BARCO to control the investment scope, as they demand a complementary business case for large change requests (Al-Mudimigh et al., 2001). In line with Raymond et al. (1995), BARCO will also utilise the business case to objectively evaluate the investment performance in regular post-implementation reviews.

An important difference between the business case process of BARCO and the development process of Ward et al. (2008) can be found in investment governance. Ward et al. (2008) advises to identify and assign individual owners of investment benefits and their enabling organisational changes while at BARCO the ownership is shared between three parties responsible for the implementation of the objectives and changes of one business process: the BPO, a business analyst and a consultant. According to the IT Director, *“this approach is typical for BARCO’s consensus culture which makes business ownership largely contingent upon the organisation culture.”* Whether this will impact the investment success rate positively or negatively is still unknown, but shared ownership seems to increase stakeholder inclusion and commitment and to inhibit clear individual accountability and dedicated ownership.

We conclude that Ward et al.’s (2008) process is very complete in order to develop a sound business case for an IT enabled business investment. Yet, the BARCO case study reveals that supplementary business case tasks executed during and after the investment implementation are useful to support the investment execution and benefit realisation. Furthermore, we argue that the usefulness of employing a business case throughout the investment is not limited to BARCO. Many organisations across different industries undertake ERP initiatives (Stefanou, 2001), so they can all learn from and apply the business case process from this paper’s context. Some steps and business case tasks might need to be re-interpreted in their organisational context, but the general process approach towards business cases can be beneficial to them. In our opinion, the usefulness of a business case can also be extended beyond ERP investments. Business case are equally applied in other IT related investment contexts (e.g. Decision Support systems, Data Warehousing systems) and in more organisational and

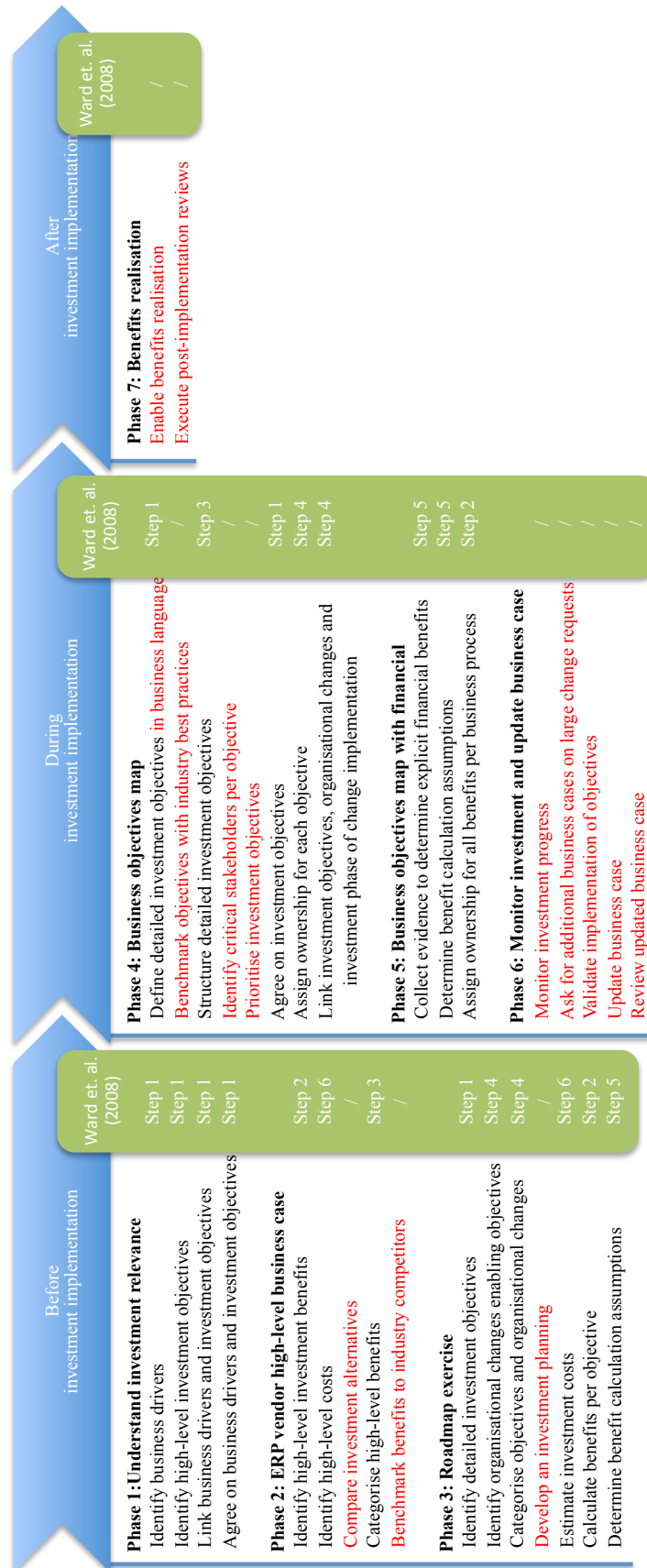


Figure 6. The investment life cycle including business case process phases and tasks from BARCO compared with business case development steps of Ward et al. (2008)

management oriented investments (e.g. strategic alliances, gender diversity and corporate social responsibility) (e.g. Barnett, 2007; Counihan, Finnegan, & Sammon, 2002). Organisations undertaking investments in these non ERP contexts can extend their business case usage as well throughout the investment life cycle to have a higher success rate in achieving the predefined objectives and respective business value. Further research should be stimulated to validate the supplementary business case tasks as identified in this research, and to evaluate their impact on the investment performance in additional case studies. Additionally, more tasks should still be investigated in order to further complement the business case process. Last, we solicit for further research to interpret the business case usage in other organisational and investment contexts to support the generalisation of our findings.

ACKNOWLEDGMENTS

The authors would like to thank BARCO and in particular the interviewees and the CIO for their generous cooperation, time, trust and support in undertaking this research. Our research has been funded by a Ph.D. grant of the Belgian Agency for Innovation by Science and Technology.

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